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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/513,914      | 02/25/2000  | Ramanamurthy Dantu   | 067191.0111         | 7470             |

7590 06/29/2005

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| EXAMINER |
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FERRIS, DERRICK W

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| ART UNIT | PAPER NUMBER |
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2663

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |   |                  |
|------------------------------|---|------------------|
| <b>Office Action Summary</b> | Application No.                         | Applicant(s)     |
|                              | 09/513,914                              | DANTU ET AL.     |
|                              | Examiner <i>RF</i><br>Derrick W. Ferris | Art Unit<br>2663 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 03 February 2005.  
 2a) This action is FINAL. 2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) See Continuation Sheet is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 1-5,7,8,10-19,21,22,24-30,44-46,48 and 49 is/are allowed.  
 6) Claim(s) 31,34-39,41-43,50,52-60,62-67,69-72 and 76 is/are rejected.  
 7) Claim(s) 33 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 25 February 2000 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

Continuation of Disposition of Claims: Claims pending in the application are 1-5,7,8,10-19,21,22,24-31,33-39,41-46,48-50,52-60,62-67,69-72 and 76.

## DETAILED ACTION

### *Response to Amendment*

1. **Claims 1-5, 7-8, 10-19, 21, 22, 24-31, 33-39, 41-46, 48-50, 52-60, 62-67, 69-72, and 76** as amended are still in consideration for this application. Applicant has amended claims 39, 42, 43, 50, 52, 53, 60, 64, and 76. Applicant has canceled no claims.
2. Examiner does **not withdraw** the obviousness rejection to *Ahmed* in view of *Mikkonen* in further view of *Menon*. Applicant's arguments filed 2/3/2005 have been fully considered but they are not persuasive. In particular, applicant argues that the *Menon* reference lacks separate wireless virtual paths for wireless protocol traffic and wire-line protocol traffic. Examiner respectfully disagrees. Support for applicant's amendment may be taught e.g., in applicant's figure 3 with respect to a wire-line tunnel as MPLS path 70 and a wireless tunnel as MPLS tunnel 72. In addition, see e.g., applicant's specification at pages 17-18 with respect to the above-mentioned tunnels. The examiner would like to clear point out that further limitations reciting the differences between the tunnels is not recited in the claims such as e.g., that the wire-path transports IP packets while the wireless path transports radio frames (please note, however, the allowability of claim 33 upon further reconsideration and also note the distinction or contrast between claim 33 and e.g., claim 62 where claim 62 teaches that *both* wireless paths transport radio frames). Instead the claims recite that the wireless virtual path transport at least wireless traffic and that that wire-line virtual path transport wire-line virtual traffic. As such, see e.g., figure 8c of *Menon* where a wireless path is e.g., the bearer traffic tunnel 865 (i.e., the payload) and the wire-line path is e.g., signaling path 864 (i.e., call processing). As such, the rejection is maintained.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 31, 34-38, 39, 41-43, 50, 52-59, 60, 62-63, 64-67, 69-72, and 76** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,256,300 to *Ahmed et al.* (“*Ahmed*”) in view of U.S. Patent No. 6,587,457 to *Mikkonen* in further view of U.S. Patent No. 6,496,649 B1 to *Menon et al.* (“*Menon*”).

As to **claim 31**, *Ahmed* teaches communication between two wireless routers where one of the wireless routers is an anchor base station, see e.g., column 5, lines 22-45 of *Ahmed*. In particular, *Ahmed* teaches the concept of generating tunnels between nodes or wireless routers, see e.g., column 18, line 63 – column 20, line 62.

It may not be clear from *Ahmed* that there are two separate tunnels where one tunnel is configured for the transmission wireless traffic and one tunnel is configured for wireline traffic. Instead *Ahmed* teaches that tunneling is used in soft handoffs, see e.g., column 20, lines 17-20. The examiner proposes to modify the reference to clarify that tunnels are MPLS virtual paths and that there are two separate tunnels, one for wireline traffic and another for wireless traffic as is known in the art. *Mikkonen* teaches that it is known in the art to transport MPLS as tunnels as shown e.g., in figure 6 and column 3, lines 1-44. *Mikkonen* also teaches that the routers generate the MPLS virtual paths.

*Menon* teaches using two separate tunnels, one for wireline traffic and another for

wireless traffic, as shown in figure 8c of *Menon*, see e.g., column 21, line 52 – column 22, line 18. Thus examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to further include the limitations "a first wireless virtual path configured for a call between the first and second wireless routers for the transmission of wireline protocol traffic and a second wireless virtual path configured for the call between the first and second routers for transmission of wireless protocol traffic". Examiner also notes that it would have been obvious to one skilled in the art to further include the limitation "the first and second wireless virtual paths each comprising a multi-protocol label switched path". Examiner notes that one skilled in the art would have been motivated to make the proposed modification of using MPLS virtual paths as tunnels for the purpose of transporting packets. In particular, *Mikkonen* teaches the above motivation e.g., at column 3, lines 1-44. Examiner also notes that one skilled in the art would have been motivated to make the proposed modification for using separate tunnels for wireless and wireline traffic to further distinguish the different types of traffic between routers. Specifically, *Menon* illustrates the motivation found in figure 8c. Examiner also notes a reasonable expectation of success since an anchor base station is also taught for the references.

As to **claim 34**, *Ahmed* teaches at least a soft handover at e.g., column 20, lines 18-21.

As to **claims 35-36**, see column 7, lines 65-67 and column 8, lines 1-4 of *Mikkonen* where the mobile IP router provides policy management and admission control

and where QoS is used for allocating bandwidth and reserving resources as is known in the art.

As to **claim 37**, see *Mikkonen* column 8, line 1.

As to **claim 38**, see the combined rejections for claims 35-37.

As to **claim 50**, see similar reasoning for the rejection for claim 31. Note that communication with a wireline network is further taught by *Menon*, see e.g., figure 8c.

As to **claims 52-53**, examiner notes the selection of an anchor base station using a broad but reasonable interpretation of a forwarding table and trigger rule as is known in the art (e.g., see figure 3b block 30 of *Ahmed*).

As to **claims 54-56**, examiner notes that it would have been obvious to a skilled artisan prior to applicant's invention to use certain selection criteria for a handoff which includes pattern matching, error correction bits, and frame sequence number (FSN) of the signal. As support, *Ahmed* discloses selecting some "quality metric" for each packet received [column 20, lines 9-10] where such a "quality metric" is pattern matching, error correction bits, or frame sequence numbers as is known in the art.

As to **claims 57-58**, *Ahmed* teaches a broad but reasonable interpretation of an active list and a candidate list in the selection of an anchor base station (i.e., each wireless router is equipped with a handoff manager capable of collecting relevant information from neighboring wireless routers) [column 19, lines 21-36].

As to **claim 59**, *Mikkonen* discloses an RF front end as is known in the art.

5. **Claims 39, 41-43, 60, 62-63, 64-67, 69-72, and 76** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,256,300 to *Ahmed et al.* ("Ahmed") in view of U.S.

Patent No. 6,587,457 to *Mikkonen* in further view of U.S. Patent No. 6,496,649 B1 to *Menon et al.* (“*Menon*”).

As to **claim 39**, see similar rejection to claim 31.

As to **claim 41**, see figure 6.

As to **claim 42**, examiner notes a synchronization bias for synchronous transmission is taught using the anchor base station as is known in the art [column 20, lines 2-15]. In particular, packets are transmitted in duplicate (i.e., multicast) with synchronization bias as is known in the art for the purpose or motivation of selecting or combining packets as taught by the reference.

As to **claim 43**, examiner note that the anchor base station acts as a primary router for the call as is known in the art.

As to **claim 60**, in addition to the reasoning for claim 39, examiner notes the active set of routers includes an anchor base station (i.e., the primary router) and a set of directed nodes (i.e., secondary wireless routers). *Ahmed* teaches in general that mobiles communicate with the network node also assist in handoff decisions by providing signal strength information from neighboring nodes [column 19, lines 24-26]. Thus a communication is received from a mobile device identifying an active set of routers.

As to **claim 62**, see figure 4 of *Mikkonen*.

As to **claim 63**, both references disclose GSM radio frames.

As to **claim 64**, see similar rejection with respect to claim 60.

As to **claim 65**, see e.g., see figure 4b of *Mikkonen*.

As to **claims 66-67**, *Ahmed* discloses a selector in selecting an anchor base station for a soft handoff [column 20, lines 2-15].

As to **claims 69-72**, examiner notes a synchronization bias for synchronous transmission is taught using the anchor base station as is known in the art [column 20, lines 2-15]. In particular, packets are transmitted in duplicate (i.e., multicast) with synchronization bias as is known in the art for the purpose or motivation of selecting or combining packets as taught by the reference.

As to **claim 76**, see similar rejection for claim 60.

***Allowable Subject Matter***

6. **Claims 1-5, 7-8, 10-19, 21, 22, 24-30, 44-46, 48-49** are allowed.
7. **Claim 33** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Derrick W. Ferris  
Examiner  
Art Unit 2663

DWF

  
RICKY NGO  
PRIMARY EXAMINER

9/27/05